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ABSTRACT

The relative effectiveness of spontaneously-formed and organized group study was compared along with the effect of studying independently. Subjects were 34 undergraduate psychology students who participated during the regular class period. Analyses were done on grade-point averages (an index of past academic performance) and grades for the course (an index of current academic performance). The results revealed no significant effects attributable to any study condition, although spontaneous and independent groups did seem to fare slightly better than the organized group when it came to course grades. It was concluded that the use of study groups integrated into the class may still be justified and warranted for any positive effect which might possibly be accrued. (Author)

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Relative Effectiveness of Group Study on Academic Performance

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The relative effectiveness of spontaneously-formed and organized group study was compared along with the effect of studying independently. 34 undergraduate psychology students participated during the regular class period. Analyses were done on grade-point averages (an index of past academic performance) and grades for the course (an index of current academic performance). The results revealed no significant effects attributable to any study condition although spontaneous and independent groups did seem to fare slightly better than the organized group when it came to course grades. It was concluded that the use of study groups integrated into the class may still be justified and warranted for any positive effect which might possibly be accrued.

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Relative Effectiveness of Group Study

on Academic Performance

In the effort to provide for the best environment by which to facilitate learning and academic performance, the need for research regarding students and their relation to the learning mileau is certainly indicated. To this end, considerable research has been generated as to the use of various teaching techniques, teaching aids, and facilities (e.g., 2,3,5,6). Certain behaviors of the student, however, have yet to be fully explored. The intent of this paper is to look into one of these--the practice of studying in groups as compared to studying independently.

Surprisingly enough, with the rather ubiquitous occurrence of spontaneously-formed study groups among students, little research has been done on the subject. Does participation in such a group effort provide sufficient positive effect on academic performance to warrant further participation? Based on simple observation, it would appear that students feel that they do derive some positive benefits, thus the continued participation in, and proliferation of, group study. In an initial inquiry into the interaction between studying in a group and subsequent academic achievement, Blue(1) concluded that group study did in fact facilitate academic performance. The only exception he noted was among the more scholastically prominent students. This exception would seem to be intuitively obvious as these students would already have been performing optimally on their own accord. Similarly, Leuba (4) observed that study groups formed of students involved in independent, self-paced study had also proved effective in increasing performance.

Given that the majority of students are not academic exceptions, they might derive some benefit from having organized study groups integrated into the regular classroom agenda. An additional variable now introduced is whether or not required participation in such a session would be as effective as spontaneously-formed groups are reported to be. The current study investigated the relative effectiveness between two types of study groups, those formed spontaneously and those organized 'by decree', as compared to individuals preferring independent study.

METHOD

Subjects

The subjects consisted of 34 undergraduate psychology students enrolled in child psychology courses. Ages ranged from 18 to 45 with the median age being 21.

Procedure

At the onset of the term, a period of time was allowed to pass during which 4 tests (covering the appropriate course content) were administered. It was assumed that during this time spontaneously-formed study groups of some sort, if nothing more than several dyads, would occur. Following the fourth test, when preparation was begun for the next test, it was announced that the final 30 minutes of each class was to be set aside for them to get into groups and study the related course material. In addition, they would also have 30 minutes preceeding each forthcoming test. They were further informed that the instructor would always be available for questioning and would provide any comments when called upon, either by groups or individuals, during this particular time.

Those students who had already been studying together in some manner were asked to identify themselves. They were then pooled to create a spontaneously-formed group (SG,n=9) and were instructed to continue studying for the course as they had been. The remaining students were informed that they would become a similar group, however, for those who so preferred would be excused to study independently. Those who formed into a group were considered to be an organized group (OG,n=10) while those who opted for the independent approach were termed the independent group (IG,n=7). A control group (CG,n=8) of students from another section were randomly selected to provide for a base by which to evaluate any effect resulting from simple exposure to the various treatment conditions. Overall, group attendance proved to be fairly consistent throughout the term.

Upon completion of the course, final grades (an average of their 11 test grades based on a 4-point system) were computed for each student. A cumulative grade-point average for each was also obtained from the registrar and was considered to be a general index of a student's previous academic performance. It should be noted that the grading system employed was of a non-punitive nature, thereby not including a *Withdrawn Incomplete* in GPAs or even providing for a *D* or an *F* in the event of below-*C* work--failure to achieve minimum objectives. Nevertheless, this served as the most convenient measure of *actual* past achievement. For the purpose of retaining as many subjects as possible, it was decided to assign any *WI* that might occur a value of zero (equivalent to an *F*) for the purpose of comparing course grades between the groups. This would only be done, however, for those students who continued through to the end of the term failing to maintain or fulfill the minimum course objectives. Those students dropping out with a *WI* before completion of the term would not be included in the study.

RESULTS

Unlike Blue (1), there was no *a priori* action taken by which to insure that academic achievement (i.e., GPA) was equated between groups for the simple reason that such manipulation would further remove the spontaneity of the SG conditon. As a result, an initial data analysis on GPAs was indicated to determine how the groups differed with regard to this index. Descriptive data for the various conditions has been summarized in Table 1. Only 2 students received a grade of *WI* and both occurred in the control group, thus lowering the mean course grade for the group.

Insert Table 1 About Here

Comparisons of GPAs revealed only two noticeable differences. The GPA of OG was significantly lower than SG ($t=2.502, df=17, p < .05$) and the IG ($t=2.166, df=15, p < .05$). All others were of little consequence ($p > .05$). One possible explanation for this observation lies in the possibility of those students with higher performance records tend to gravitate toward spontaneous group study or maintain independent study, perhaps having done so in the past, which has a positive effect on their academic performance.

Following this further, correlated *t*-tests were carried out within groups between subject's course grade and GPA. All non-significant results were obtained ($p > .05$), indicative perhaps that the students were performing in accordance with their past academic performance. Correlational analysis between course grade and GPA provided additional insight. The control and IG both revealed very high correlation coefficients ($r=.857$ and $.855$, respectively). Whatever they had done in the past to affect their performance would

appear to have been operating still. With SG a lower correlation was obtained (r=.575) due to their course grade being somewhat higher than their GPA (although not significantly so). A considerably lower, and negative, correlation (r=-.360) was observed for OG and is also a result of a slight discrepancy with their grade being higher than their GPA (but, again, not significantly so).

Attention was now directed toward assessing the relative effectiveness of the study groups. This was to be determined by a comparision of course grades between groups. Analyses revealed no significant differences having occurred due to the condition involved ($p > .05$).

Although SG and OG both showed slight improvements in grades over past performances (i.e., GPA), neither were great enough to exceed the performance of those studying independently or the control group. On the basis of these findings, it was concluded that while both spontaneous and organized study groups provided some benefits to their participants, their effects appeared to be minimal in the present study. Members of the independent group had maintained their previous performance level (as did the control) which was rather good to begin with.

DISCUSSION

Although there was no statistically significant differences in performance due to study conditions, there were indications that study groups did aid in increasing current academic performance over past performance. Requiring students to participate rather than relying on total spontaneity within a class appeared to have no deleterious effects. On the contrary, for those students who do not demand to study alone yet hesitate to initiate entrance into a group, the class-organized group may well prove beneficial to them.

In the present study, those students desiring to study alone were generally of superior scholastic ability although there were two whose records were quite the opposite. With the exception of the two "low-achievers", it is doubtful that those wanting to be independent would profit much from required group study as they are motivated to prepare and perform at an optimal level on their own accord. The low-achievers, on the other hand, should be directed toward some type of group study to promote some possibility of improvement.

While this study can offer no statistical support in favor of a particular group or of a group over independent study, the implications are such that it would appear that study groups do facilitate learning and subsequent performance to some degree. The extent to which groups would be able to do this, however, would be dependent upon a great many variables. Certainly, the nature of the group itself, the peer support furnished through the group interaction, the provision of immediate feedback, and perhaps the reduction of any prevailing anxiety associated with the classroom and the learning/performance process in general are factors that must be taken into consideration.

Additional research is indicated where greater control can be obtained regarding the motivation of the individuals involved and perhaps a more objective, somewhat standardized, assessment of performance can be employed. Also of interest would be the structure of the group dynamics resulting in such groups and how they may affect subsequent academic performance.

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Table 1. Descriptive Statistics of Academic Performance by Experimental Study Conditions

	Study Condition			
	Spontaneous (n=9)	Organized (n=10)	Independent (n=7)	Control (n=8)
GPA				
$\bar{X}$	3.217	2.856	3.411	3.019
SD	.279	.298	.659	.620
COURSE GRADE				
$\bar{X}$	3.555	3.200	3.571	2.625
SD	.497	.400	.728	1.576